WHAT IS CLAIMED IS:

1. A method for inspecting a specimen, comprising:

directing ultraviolet light to the specimen;

detecting light scattered from the specimen, wherein the detected light has a selected wavelength range; and

detecting features, defects, or light scattering properties of the specimen using signals representative of the detected light.

2. The method of claim 1, wherein the ultraviolet light comprises nearly monochromatic ultraviolet light.

3. The method of claim 1, wherein the wavelength range is selected such that light fluoresced from the specimen is not detected.

4. The method of claim 1, wherein the wavelength range comprises wavelengths within about 1 nm to about 10 nm of a wavelength of the ultraviolet light.

5. The method of claim 1, wherein the wavelength range is selected such that the detected light comprises light fluoresced from the specimen.

6. The method of claim 1, wherein the wavelength range comprises wavelengths shorter than a wavelength of the ultraviolet light.

7. The method of claim 1, wherein detecting the light comprises detecting the light scattered from the specimen with two channels, and wherein the light detected by the two channels has different selected wavelength ranges.

8. The method of claim 7, wherein the two channels are arranged at different collection angles, wherein one of the different selected wavelength ranges is selected such that the detected light has a wavelength that is approximately the same as a wavelength of the ultraviolet light, and wherein another of the different selected wavelength ranges is selected such that the detected light comprises light fluoresced from the specimen.

9. The method of claim 8, wherein the two channels comprise two or more detectors arranged at a first of the different collection angles and two or more detectors arranged at a second of the different collection angles.

10. The method of claim 1, wherein detecting the light comprises detecting the light scattered from the specimen with two channels, wherein the two channels are arranged at different collection angles, and wherein the light detected by the two channels has the same selected wavelength range.

11. The method of claim 10, wherein the wavelength range of the two channels is selected such that light fluoresced from the specimen is not detected.

12. The method of claim 10, wherein the wavelength range of the two channels is selected such that the detected light comprises light fluoresced from the specimen.

13. The method of claim 1, further comprising classifying the features or defects using signals representative of the detected light.

14. A method for inspecting a specimen, comprising:

directing ultraviolet light to the specimen;

detecting light scattered from the specimen with one or more channels, wherein each of the one or more channels comprises one or more detectors, and wherein each of the one or more detectors has an independently selected wavelength range; and

detecting features, defects, or light scattering properties of the specimen using signals representative of the detected light.

15. The method of claim 14, further comprising classifying the features or defects using signals representative of the detected light.

16. A method for inspecting a specimen, comprising:

directing light having one or more incident wavelengths to the specimen;

separately detecting a first portion and a second portion of light scattered from the specimen substantially simultaneously, wherein the first portion has a wavelength range selected such that the first portion does not include light fluoresced from the specimen, and wherein the second portion has a wavelength range selected such that the second portion comprises light fluoresced from the specimen; and

detecting features, defects, or light scattering properties of the specimen using signals representative of the first and second portions of the light.

17. The method of claim 16, wherein the one or more incident wavelengths are selected to stimulate fluorescence emission from one or more materials on the specimen.

18. The method of claim 16, wherein the one or more incident wavelengths are ultraviolet wavelengths.

19. The method of claim 16, wherein the wavelength range of the first portion comprises wavelengths within about 1 nm to about 10 nm of the one or more incident wavelengths.

20. The method of claim 16, further comprising separately detecting a third portion of the light scattered from the specimen, wherein a wavelength range of the third portion is selected to include wavelengths shorter than the one or more incident wavelengths.

21. The method of claim 16, further comprising separately detecting a third portion of the light scattered from the specimen, wherein a wavelength range of the third portion is selected such that the third portion comprises light fluoresced from the specimen at wavelengths different than those of the second portion.

22. The method of claim 16, further comprising classifying the features or defects using an intensity of the first portion, an intensity of the second portion, or a combination thereof.

23. The method of claim 16, wherein said directing and said separately detecting are performed in a non-confocal mode.

24. The method of claim 16, wherein said directing and said separately detecting are performed in a darkfield mode.

25. An inspection system, comprising:

an illumination subsystem configured to direct ultraviolet light to a specimen;

a channel configured to detect light scattered from the specimen having a selected wavelength range; and

a processor configured to detect features, defects, or light scattering properties on the specimen using signals that are representative of the detected light.

26. The system of claim 25, further comprising a second channel, wherein the channel and the second channel are arranged at different collection angles.

27. The system of claim 25, further comprising a second channel, wherein the channel and the second channel are arranged at the same collection angle.

28. The system of claim 25, further comprising a second channel, wherein the channel and the second channel comprise different types of detectors.

29. The system of claim 25, further comprising a second channel, wherein the channel and the second channel comprise the same type of detectors.

30. The system of claim 25, further comprising a second channel, wherein the channel comprises a bandpass filter, and wherein the second channel comprises an edge filter, a notch filter, or a combination thereof.

31. The system of claim 25, wherein the channel comprises one or more spectral filters, and wherein the one or more spectral filters are selected based on one or more materials of the specimen.

32. The system of claim 25, wherein the wavelength range is selected such that light fluoresced from the specimen is not detected.

33. The system of claim 25, wherein the wavelength range is selected such that light fluoresced from the specimen is detected.

34. The system of claim 25, wherein the wavelength range comprises wavelengths that are shorter than a wavelength of the ultraviolet light.

35. The system of claim 25, further comprising a second channel configured to detect light scattered from the specimen having a second selected wavelength range.

36. The system of claim 25, wherein the illumination subsystem and the channel form a non-confocal optical subsystem.

37. The system of claim 25, wherein the illumination subsystem and the channel form a darkfield optical subsystem.